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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/893,493	06/29/2001	Alan F. Graves	08-891912US1	6350

7590

09/20/2005

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EXAMINER

BELLO, AGUSTIN

ART UNIT	PAPER NUMBER
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2633

DATE MAILED: 09/20/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/893,493

Applicant(s)

GRAVES ET AL.

Examiner

Agustin Bello

Art Unit

2633

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 June 2005.
2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-26 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 1-26 is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-6, 8-20, and 22-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kuykendall (U.S. Patent Application Publication No. 2002/0181044) in view of Adams (U.S. Patent No. 6,785,472).

Regarding claims 1, 16-20, 22-23, Kuykendall teaches a plurality of access multiplexers (reference numeral 18 in Figure 2b), each access multiplexer operable to provide multiplexing of data packets from a plurality of end-users onto a wavelength; a photonic switch (reference numeral 16 in Figure 2b), coupled to the access multiplexers via fiber optic cable (paragraph [0078]) for carrying the wavelengths, and operable to consolidate the wavelengths into dense wavelength division multiplexed (DWDM) signal for transmission; and a core node (reference numeral 40 in Figure 2a), coupled to the photonic switch (reference numeral 16 in Figure 2a) via a fiber optic cable for carrying the DWDM signal, and operable to route the data packets within the communications network or out to a long haul network. Kuykendall differs from the claimed invention in that Kuykendall fails to specifically teach S-DWDM. However, this method of multiplexing signals is well known in the art and commonly referred to as coarse WDM or (C-WDM). Adams, in the same field of optical communication systems, teaches that C-WDM is well known in the art (column 1 lines 57-63). One skilled in the art would have been

Art Unit: 2633

motivated to employ C-WDM in the device of Kuykendall in order to enable the use of very low cost transceivers and avoid the need for temperature control (column 1 lines 57-63 of Adams). Therefore, it would have been obvious to one skilled in the art at the time the invention was made to employ C-WDM in the device of Kuykendall.

Regarding claims 2, 4, Kuykendall teaches that the photonic switch includes a multiwavelength source (paragraph [0071]) for generating DWDM quality wavelengths for supplying the access multiplexers with unmodulated wavelengths upon which to multiplex data packets.

Regarding claims 3, 24, Kuykendall teaches that the core node includes a photonic switch and a packet switch (e.g. "Enterprise Switch").

Regarding claim 5, Kuykendall teaches that the data packets are Ethernet packets (paragraph [0086]).

Regarding claim 6, Kuykendall teaches that a portion of the data packets are transmitted from a particular end-user to a particular access multiplexer over a local loop, connecting the particular end-user to the particular access multiplexer, using a digital subscriber line DSL protocol (paragraph [0076]).

Regarding claim 7, Kuykendall differs from the claimed invention in that Kuykendall fails to specifically teach that the type of DSL is VDSL. However, VDSL could clearly be accommodated in the system of Kuykendall in that the facilities exists for the connection and data rate required by VDSL. One skilled in the art would have been motivated to employ VDSL in order to increase the data rate per subscriber. Therefore, it would have been obvious to one

Art Unit: 2633

skilled in the art at the time the invention was made to employ VDSL in the system of Kuykendall.

Regarding claims 8, 9, the photonic switches and core node of Kuykendall are clearly capable of switching at the wavelength, group of wavelength, and fiber level.

Regarding claim 10, the core node of Kuykendall is clearly capable of switching data packets based on a service to which the data packet pertains.

Regarding claim 11, Kuykendall teaches a plurality of photonic switches, each of the photonic switches connected to at least one other photonic switch and the core node (inherent in a larger overall system of Kuykendall).

Regarding claim 12, Kuykendall teaches a plurality of core nodes, each of core nodes connected to at least one other core node (inherent in a larger overall system of Kuykendall).

Regarding claims 13-15, 25 Kuykendall teaches that the core node includes a wavelength converter for converting one wavelength to another wavelength to provide an end-to-end photonic connection across the network (paragraph [0081, 0083, 0087]).

Regarding claim 21, Kuykendall differs from the claimed invention in that Kuykendall fails to specifically teach that N is 40 and s is 5. However, being that the system taught by Kuykendall complies with DWDM standards, it is clear that one skilled in the art could have selected any number of channels and an associated channel spacing including a configuration of 40 channels with a spacing of 5.

Regarding claim 26, Kuykendall teaches that the photonic switch (reference numeral 16 in Figure 2a) includes a first plurality of input ports and a second plurality of output ports, with

Art Unit: 2633

the first being greater than the second, whereby the photonic switch effects concentration of the wavelengths from the access multiplexers (as seen in Figure 2b).

Response to Arguments

3. Applicant's arguments with respect to claim 6/29/05 have been considered but are moot in view of the new ground(s) of rejection. Furthermore, the examiner has considered the elements of the cited reference as equivalent to the elements of the claimed invention (e.g. photonic switch, core node) and has given their meaning the broadest reasonable interpretation.

Conclusion

4. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Agustin Bello whose telephone number is (571) 272-3026. The examiner can normally be reached on M-F 8:30-6:00.

Art Unit: 2633

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jason Chan can be reached on (571)272-3022. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

AB

A. Bello
AGUSTIN BELLO
PATENT EXAMINER